



# IPCC Introduction

Joint IPCC/IEA meeting on data  
13-14 December, 2017  
Paris, France

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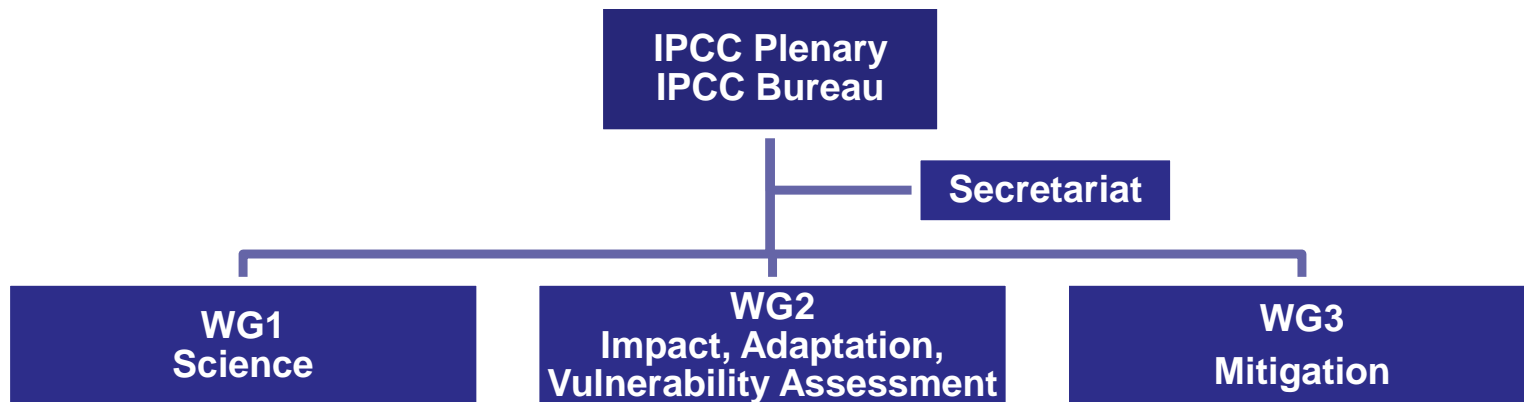
# Intergovernmental Panel on Climate Change - IPCC

- Established by WMO (World Meteorological Organization) and UNEP (United Nations Environment Programme) in 1988 to;
  - Make periodic assessments of the science, impacts and the socio-economic aspects of climate change and of adaptation and mitigation options to address it;
  - Assess, and develop as necessary, methodologies such as the IPCC Guidelines for National Greenhouse Gas Inventories;
  - Provide, on request, scientific/technical /socio-economic advice to the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) and its bodies.

# History – 1

WCC: World Climate Conference  
INC: Intergovernmental Negotiating Committee

- 1988 The IPCC was established.
- 1990 The IPCC issued its First Assessment Report.  
The Second WCC called for the creation of a global treaty.
- 1991 The INC on a convention on climate change started negotiations.  
**The IPCC/OECD/IEA Inventory Programme was launched.**
- 1992 The UN Framework Convention on Climate Change (UNFCCC) was adopted.
- 1994 **The IPCC Guidelines for National GHG Inventories were developed.**
- 1995 The UNFCCC COP1 in Berlin decided to use the IPCC Guidelines.



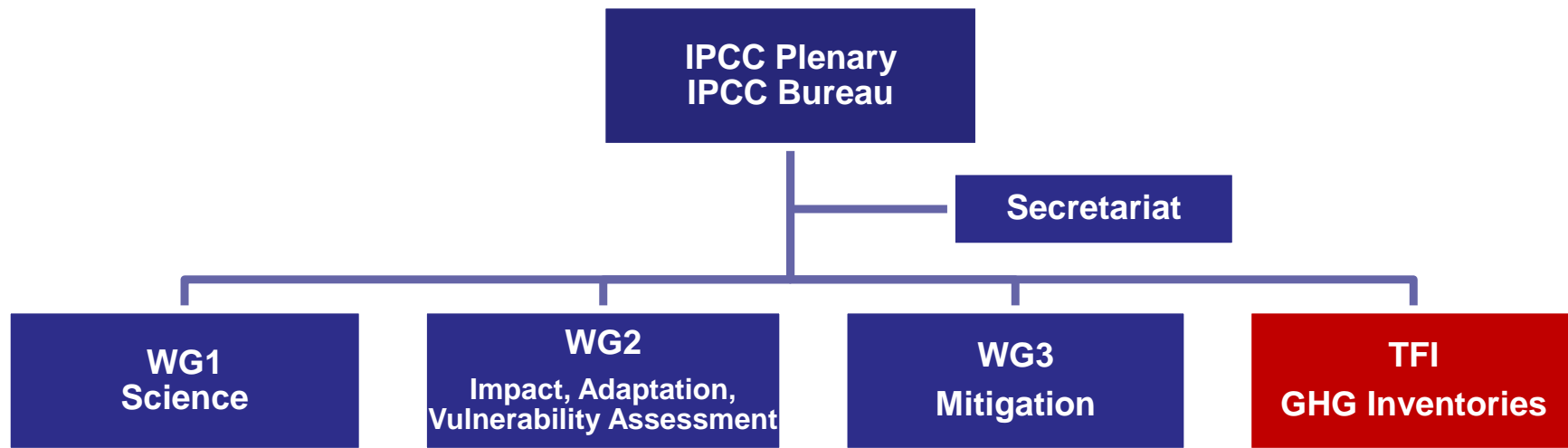
# History – 2

1997 UNFCCC COP3 was held in Kyoto, and the Kyoto Protocol was adopted.

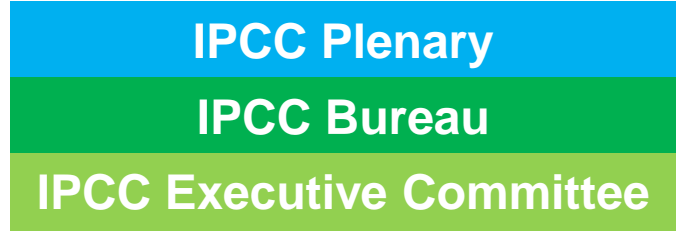
1998 **The IPCC14 decided to establish TFI.**

- The need for continuous improvement of GHG emission estimation methodologies was recognized.
- Because of emission reduction commitments set in the Kyoto Protocol, the importance of national GHG inventories increased.
- Japan offered to host the TFI TSU with financial contribution.

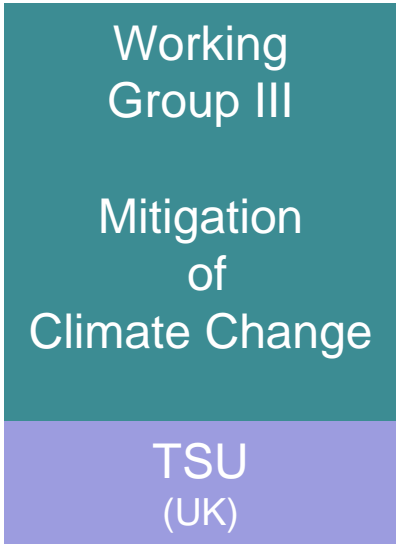
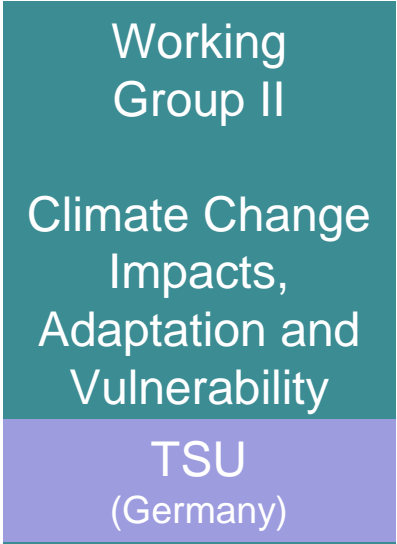
1999 The TFI TSU was established at IGES in Japan. TFI went into operation.



# Structure of the IPCC (2015 -2022)



IPCC Secretariat  
(in Geneva,  
Switzerland)

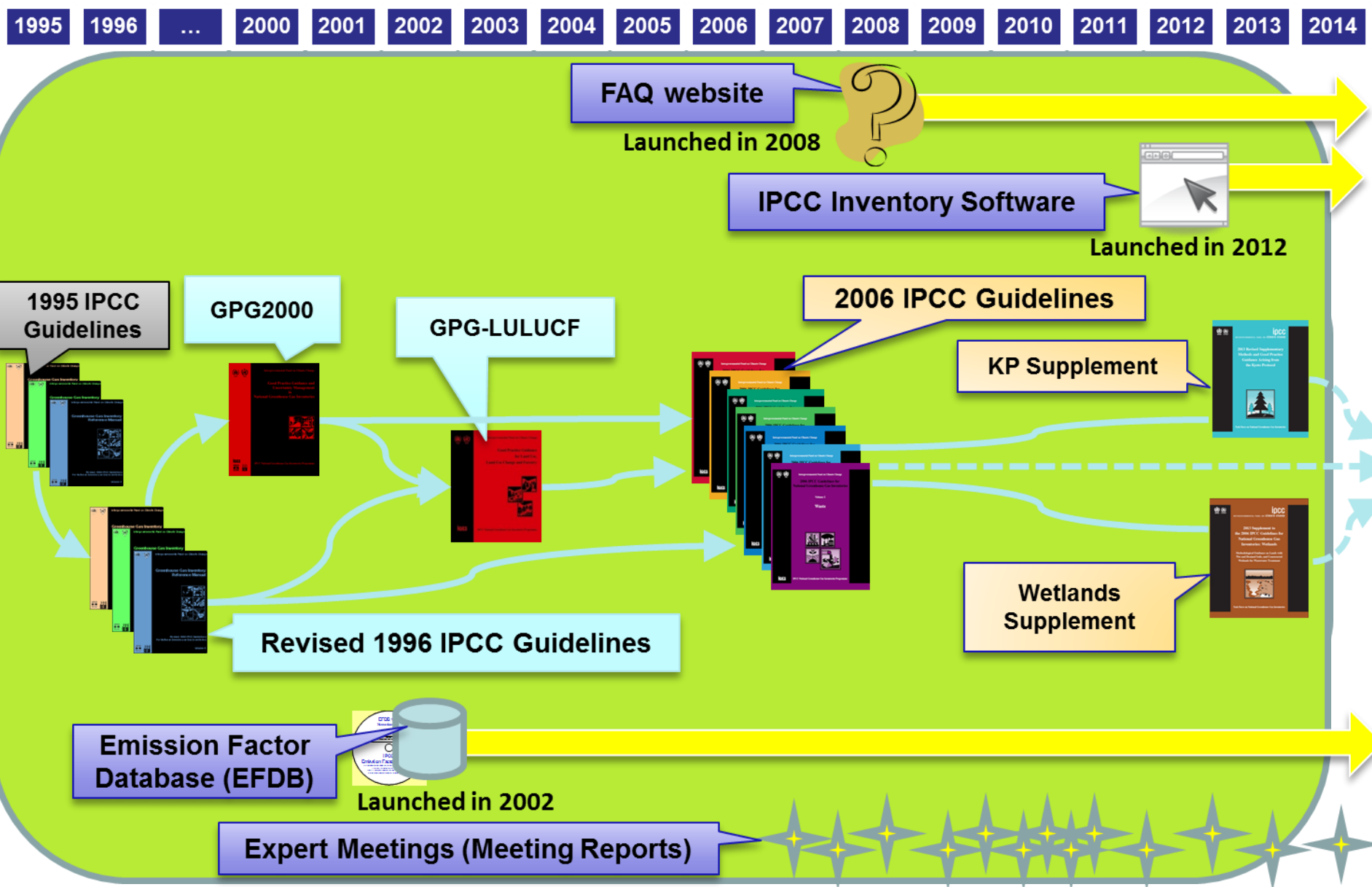


Authors, Contributors, Reviewers

# IPCC Task Force on National GHG Inventories (TFI)

- The IPCC National Greenhouse Gas Inventories Programme was managed from 1991 by the IPCC WG I in close collaboration with the Organisation for Economic Co-operation and Development (OECD) and the International Energy Agency (IEA) until its transfer to the IPCC's Task Force on National Greenhouse Gas Inventories (TFI) which was established in 1998 by the IPCC with Technical Support Unit (TSU) operated in Japan since 1999.
- **The objectives of the IPCC TFI are:**
  - to develop and refine an internationally-agreed methodology and software for the calculation and reporting of national GHG emissions and removals;
  - to encourage the widespread use of this methodology by countries participating in the IPCC and by signatories of the United Nations Framework Convention on Climate Change (UNFCCC)
- IPCC TFI TSU is based at the Institute for Global Environmental Strategies (IGES) in Japan. The Unit is supported by the Government of Japan. The TSU provides scientific, technical and organizational support to the TFI under the overall supervision of the Task Force Bureau (TFB).

# IPCC Guidelines & Various Other Tools



# IPCC TFI Various Tools/ Supporting Materials

- **Emission Factor Database (EFDB)**

<http://www.ipcc-nggip.iges.or.jp/EFDB/>

- **IPCC Inventory Software**

<http://www.ipcc-nggip.iges.or.jp/software/index.html>

- **Primer for 2006 IPCC Guidelines**

<http://www.ipcc-nggip.iges.or.jp/support/support.html>

- **Reports of Expert Meetings**

<http://www.ipcc-nggip.iges.or.jp/meeting/meeting.html>



# 2006 IPCC Guidelines

- **Sectors/Methodological approaches:**
  - **Energy** (based on carbon content of fuel and Fugitive (leaks) use emission factors);
  - **Industrial Processes** (based on chemistry of process, some use mass balance of product used);
  - **Land Use** (Stock changes  $\Rightarrow$  Emissions/Removals, Inputs (e.g. growth) - outputs (e.g. decay, harvest), Total Stock at end minus Total stock at beginning);
  - **Agriculture** (based on understanding of processes);
  - **Waste** (tracks carbon (fossil & biogenic) in waste)
- **GHG emissions** (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, etc.)
- **National anthropogenic annual**
- **Good practice** (transparent, accurate, comparable, consistent, and complete)

# 2019 Refinement to the 2006 IPCC Guidelines

➤ **Will be completed in May 2019**

➤ **Aim:**

- to provide an updated and sound scientific basis for supporting the preparation and continuous improvement of national GHG inventories;
- not to revise the 2006 IPCC Guidelines, but update, supplement and/or elaborate the 2006 IPCC Guidelines where gaps or out-of-date science have been identified.

➤ **Format and Structure:**

- Same as the 2006 IPCC Guidelines (= Overview Chapter and 5 Volumes) so as to make it easier for inventory compilers to use the 2019 Refinement in conjunction with the 2006 IPCC Guidelines.

# IPCC Guidelines: Energy Sector

- 1996 and 2006 IPCC Guidelines refer to IEA and UN Energy statistics, IEA Energy Manual
- 2019 Refinement does not refine stationary and mobile combustion, but fugitive emissions and fuel transformation
- Reference approach based on Energy balance is the secondary in 2006 Guidelines to the Sectoral Approach Reference Approach should be used as a check tool

# IPCC Guidelines: Data collection

- IPCC Guidelines do not focus on activity data *per se* rather on methodological issues (we do not gather such information – e.g., fuel consumption by country, etc.)
- Reporting framework is regulated by UNFCCC
- IPCC Guidelines has a chapter on data collection in Volume 1 General Guidance of 2006 Guidelines
- IPCC EFDB focused on emission factors and some other parameters (but not on activity data)

# Vol.1 Ch.2 Approaches to Data Collection

- Collecting data, data sources
- Surveys, censuses, measurements and expert judgements
- Generating data and adapting for inventory purposes
- Activity data and emission factors
- Collection of uncertainty values for activity data and emission factors
- Energy Sector: energy balances and energy statistics, national energy and statistical agencies, research organisations, fuels, NCV, carbon content, CO<sub>2</sub> emission factors

# Data Confidentiality

- **Data providers may restrict access to information because it is confidential, unpublished, or not yet finalized.**
  
- **Find solutions to overcome their concerns by:**
  - explaining the intended use of the data
  - agreeing, in writing, to the level at which it will be made public
  - identifying the increased accuracy that can be gained through its use in inventories
  - offering cooperation to derive a mutually acceptable data sets
  - and/or giving credit/acknowledgement in the inventory to the data provided

# Emission Factor Database (EFDB)

- **Emission Factor Database (EFDB) is an electronic library of greenhouse gas emission factors/parameters (EFs):**
  - *default values from IPCC Guidelines*
  - *data from peer-reviewed papers*
  - *data from non-peer reviewed publications (governmental reports, industry studies, etc.)*
- **Available for free:**
  - *off-line: CD/DVD/USB*
    - *Version 2.7 (November, 2017) can be downloaded from the web-site*
  - *on-line: <http://www.ipcc-nggip.iges.or.jp/EFDB/main.php>*

The Web application is the core of this system. New data will be made available in the Web application first.

# On-line version of EFDB (web-site)

IPCC NGGIP

IPCC web sites

Home Find EF Documents Downloads Help

Main Page Language: English OK

**Welcome to EFDB!**

- ▶ **Nature of EFDB:** EFDB is meant to be a recognised library, where users can find emission factors and other parameters with background documentation or technical references that can be used for estimating greenhouse gas emissions and removals. **The responsibility of using this information appropriately will always remain with the users themselves.**
- ▶ **Request for data input:** Users are encouraged to provide the EFDB with any relevant proposals on emission factors or other related parameters. If you wish to submit your data for the first time, please contact the [Technical Support Unit](#). Acceptance of such proposals will be subject to evaluation by the EFDB Editorial Board using well-defined criteria.
- ▶ **Terminology:** EFDB is a database on various parameters to be used in calculation of anthropogenic emissions by sources and removals by sinks of greenhouse gases. It covers not only the so-called "emission factors" but also the other relevant parameters. For convenience sake, however, the term "Emission Factor" or its abbreviation "EF" is sometimes used to represent parameters in this database generally.
- ▶ **Software requirements:** It is highly recommended to use Microsoft Internet Explorer version 5.0 or higher for best performance. Alternatively Netscape Navigator version 6.0 or higher can be used. It is also recommended to have Microsoft Office 97 or higher for generating Word and Excel outputs.
- ▶ EFDB at present contains the IPCC default data (Revised 1996 IPCC Guidelines, IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories, IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry, and 2006 IPCC Guidelines for National Greenhouse Gas Inventories), and data from peer-reviewed journals and other publications including National Inventory Reports (NIRs). The old [CORINAIR](#) data have been removed as it is outdated.
- ▶ Information on emissions from local and regional air pollutants can be found from a number of sources including the [Air Pollutant Emission Factor Library](#) and [EMEP/EEA air pollutant emission inventory guidebook](#).

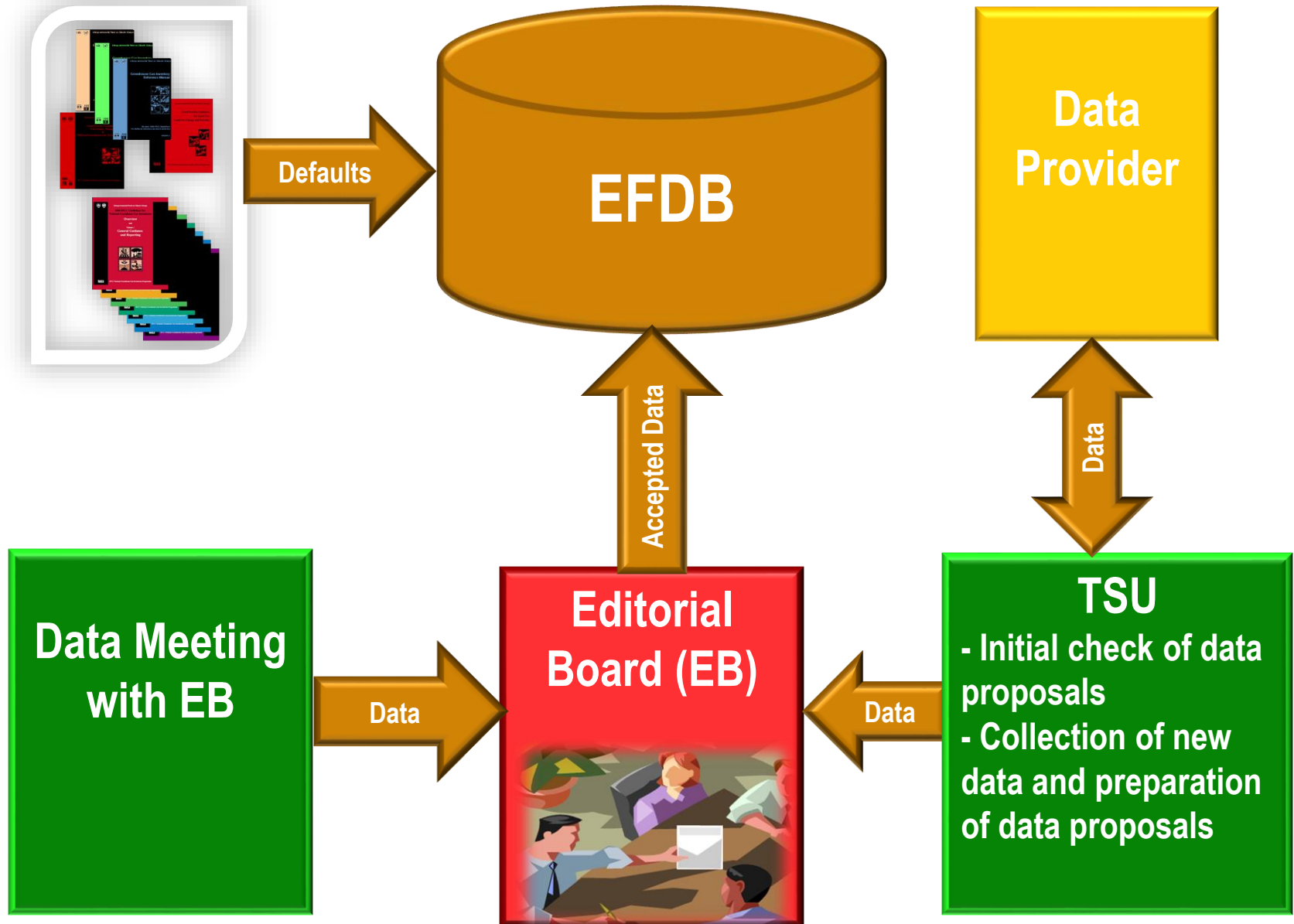
**What's new**

9 November 2017 - Updated offline application of the EFDB (version 2.7) is available [here](#)

<http://www.ipcc-nggip.iges.or.jp/EFDB/>



# Populating EFDB



# Criteria for Inclusion of New Data

## Robust

- Within the accepted uncertainty, the value is unlikely to change if there was repetition of the original measurement programme or modelling activity

## Applicable

- An emission factor can only be applicable if the source and its mix of technology, operating and environmental conditions and abatement and control technologies under which the emission factor was measured or modelled are clear and allow the user to see how it can be applied

## Documented

- Access information to the original technical reference must be provided to evaluate the robustness and applicability as described above

# EFDB: Energy Sector

- Around 7000 EFs (mainly defaults from the IPCC guidelines)
- Country-specific values for NCV, carbon content and CO<sub>2</sub> emission factors

# Joint meeting

## Objectives of the meeting

- To discuss data collection practices and methods of measurements in Energy and Industrial Sectors
- To populate the EFDB with data on calorific values, carbon content and GHG emission factors
  - Sectors: Energy and Industrial sector (with a border line on energy consumption – Iron&Steel and Petrochemicals)



# Thank you

<http://www.ipcc-nggip.iges.or.jp/index.html>

ipcc

INTERGOVERNMENTAL PANEL ON climate change

